
Partner assignments

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1. Suppose that the current nominal interest rate on one-year U.S. government bonds is 3%, that the current spot exchange rate is 1.5 \$/€, and that everyone expects the exchange rate one year from now will be 1.47 \$/€. Ignoring any possible risk premium, what must be the nominal interest rate on one-year German government bonds if there is perfect capital mobility? Why?

2. Use the Mundell-Fleming model (of a small economy with perfect capital mobility) to evaluate the following statement: “A recession due to a spending shock will be more severe in a country with fixed exchange rates than if the exchange rate floats.”

3. (Based on Romer’s problems 5.6, 5.7, and 5.8, parts (a) and (b).) Use the appropriate variants of the open-economy model to analyze the short-run, macroeconomic effects of (i) an increase in world interest rates and (ii) an increase in taxes (with non-Ricardian consumers) under conditions of:

- Floating exchange rates, perfect capital mobility, and no expected change in real exchange rates
- Floating exchange rates, imperfect capital mobility and the assumption that net exports are the only component of planned expenditures affected by the real exchange rate
- Fixed exchange rates as in the model of Romer’s Section 5.2.

For each part, show the equations for the relevant curves and discuss what variable changes and how it affects the curve(s). Then show the graph and explain the effects on the endogenous variables (output, interest rates, and/or exchange rates).

4. Countries sometimes use tariffs to attempt to improve their trade balance (net exports) and stimulate aggregate demand. Suppose that desired domestic expenditures are given by $E = \alpha_0 + \alpha_Y Y - \alpha_r r$. Net exports are $NX = \beta_0 + \beta_\epsilon \epsilon + \beta_\tau \tau$, where τ is the rate of tariff imposed by the domestic country on imports. Net capital inflows are $CF = \lambda(r - r^*)$. Domestic monetary policy is given by a real-interest-rate rule as $r = \mu_0 + \mu_Y Y + \mu_\pi \pi$. Equilibrium in the domestic economy requires that $Y = E +$

NX . Equilibrium in international payments requires $NX + CF = 0$. We will consider τ and r^* to be exogenous; all other variables are endogenous. Consider a short-run situation in which $\pi = \bar{\pi}$. All α , β , and μ coefficients are positive (except, perhaps, the intercept terms) and $\alpha_Y < 1$.

- a. In equilibrium, what effect will an increase in the tariff rate have on domestic output, the real exchange rate, and net exports? (Be sure that you solve the model *completely* before taking the appropriate partial derivatives.)
- b. Will the tariff increase improve the trade balance? Will it stimulate domestic output? Explain the logical intuition of this result in detail.
- c. What happens to the value of λ as the degree of capital mobility increases toward perfect mobility? Would this change the results of part (b)?
- d. How, if at all, would the results of part (b) be different in the long run when π is variable and $Y = \bar{Y}$?